125 East College Street
Covina, CA, 91723
P) 626-384-5460
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EV CHARGING STATION
Commercial Submittal Requirement(s)
Handout #28

DEFINITIONS:

DRIVE-UP ELECTRIC VEHICLE CHARGING STATION. An electric vehicle charging station in which use is limited to 30 minutes maximum and is provided at a location where the electric vehicle approaches in the forward direction, stops in the vehicle space, charges the vehicle, and proceeds forward to depart the vehicle space. The arrangement of a drive-up electric vehicle charger and its associated vehicle space is similar to a gasoline filling station island.

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses. trucks vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plugin hybrid electric vehicles (PHEV) are considered electric vehicles. For the purpose of this code, off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.

ELECTRIC VEHICLE (EV) CHARGER. Off-board charging equipment used to charge an electric vehicle.

ELECTRIC VEHICLE CHARGING SPACE (EV SPACE). A space intended for charging electric vehicles.

ELECTRIC VEHICLE CHARGING STATION (EVCS). One or more electric vehicle charging spaces served by an electric vehicle charger or other charging equipment. Where a multiport electric vehicle charger can simultaneously charge more than one vehicle, the number of electric charging stations shall be considered equivalent to the number of electric vehicles that can be simultaneously charged.

ELECTRIC VEHICLE (EV) CONNECTOR. A device that, when electrically coupled (conductive or inductive) to an electric vehicle inlet, establishes an electrical connection to the electric vehicle for the purpose of power transfer and information exchange. This device is part of the electric vehicle coupler

- **Level 1 Chargers** are smaller units that plug directly into a standard 110/120-volt receptacle outlet. These types of Chargers typically require a longer period of time to recharge the vehicle. As long as the receptacle outlet being used to plug-in the Level 1 Charger is existing, there is no requirement to secure a permit from the Building and Safety Division. On the other hand, if you will be installing a new 110/120-volt receptacle outlet for the Charger, you will need to obtain an electrical permit – but plans or electrical load calculations are not required.
- **Level 2 EV Charging System (**3.3kW-19.2 kW) requires 208/240-volts and charges the vehicle much faster than a Level 1 Charger. Level 2 Charger installations require a Building permit from the City. In order to obtain a building permit, you will need to provide the City with electrical load calculations to show that your existing electrical service can handle the added load.
- **Level 3 EV DC Fast Charging**. requires 25-350kW+ and require 480V 3-phase power. Most of the time this will include a new service. Level 3 Charger installations require a Building permit and may require a Public Works or Engineering permit from the City. Electric Load Calculations Required.

Installing a Level 2 and Level 3 EV Charging System often requires changes to building wiring and Utility electric services. Before installing charging equipment and associated infrastructure, talk to your EV manufacturer for information about what you need to charge your vehicle. If separate Contractors are used for the infrastructure wiring and the EV installation, separate permits will be required for each portion.

Effective: 01/01/2022

When installing your EV Charger, be sure to use a licensed Electrical Contractor whose license is current with the State Contractor's License Board. The Contractor shall follow the guidelines of the manufacturer installation instructions and all necessary Code requirements. When mechanical ventilation is **required** for the EV Charger, an additional mechanical permit will be required.

Planning and Zoning Requirements

- Planning approval **IS REQUIRED** for EV chargers that are located in public view to ensure appropriate screening. Upon approval you may complete the permitting process at the Building Division counter.
- Questions regarding these screening requirements, please contact the Planning Counter at (626) 384-5450.

Plan check Submittal Requirements:

- ❑ Four (4) complete sets of plans, printed on 24" X 36" sheets. With 2 sets of supporting calculations and specifications.
- ❑ Address of project, legal description of property, and all current 2019 codes noted on plans; including occupancy group and construction type, Zoning designation of the property.
- ❑ Name, address, and phone number of owner(s) of building and owner of proposed business.
- ❑ Name, address, phone number, and signature of individual who prepared plans on each sheet. *Plans for Commercial Construction and Tenant Improvements shall be provided by a licensed Architect, Engineer, Contractor, or Registered Design Professional.*
- ❑ A complete "Project Description" and "Scope of Work" must be on the cover sheet of the plans. The plan description must match the application description and must include breakdown of SQ. footage (example: new, altered, remodeled, demolition, flatwork, etc.).
- ❑ Supplemental information shall be included at time of application and clearly noted on cover sheet. *Ex: Edison application and Edison transformer or pedestal. Size and specification of all equipment- plan, elevation, isometric*
- ❑ Complete site plan showing size of property, property lines and dimensions, all structures on lot, property lines, front/rear/side yard setbacks (required, existing systems, and proposed), sidewalks, easements, and projections into setbacks, such as eaves, stairs, etc.
    - o Conditions of Approval, (SPR or CUP) *(if applicable)*
    - o Property line must be clearly noted with a dashed or hatched line. Show all setbacks, easements and projections into setbacks
    - o Fully dimensioned: (any existing and proposed structures and additions) must be clearly shown.
    - o Fully dimensioned parking lot plan, illustrating existing configuration and all proposed changes.
    - o Proposed addition and alteration areas should be hatched or specified within legend.
    - o All existing and proposed flatwork, walkways, and landscaped areas should be shown.
    - o Incorporate Best Management Practices (BMP) onto front page of plans
    - o Show street or alley centerlines and Right-of-Way: Showing adjacent curb, sidewalk, and street trees, adjacent improvements that may affect design including driveways, entry walkways, sidewalks, and landscape. *(if applicable)*
    - o Show street improvements such as catch basins, fire hydrants, vaults, pull-boxes, vents, streetlights, water meter, and sanitary sewer laterals, transformers, pedestals (if applicable).
- ❑ Accessibility compliance: To building and throughout site
- ❑ Plan shall include an NPDES note on the site plan***: "The discharge of pollutants to any storm drainage system is prohibited. No solid waste, petroleum byproducts, soil particulate, construction waste materials, or wastewater generated on construction sites or by construction activities shall be placed, conveyed or discharged into the street, gutter or storm drain system."***
- ❑ Plan shall include a Construction Hours note on cover page: ***"Construction or repair work, or use of Construction type equipment or device is limited to the hours of 7:00 a.m. - 8:00 p.m. Monday through Saturday. No Construction Type Work at any time on Sunday or on any Public Holiday"***

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❑ If the project includes exterior work, the plan shall delineate all projecting elements, and show distance(s) to the property line(s) or adjacent structures.

❑ Plan must correctly identify the current codes. Provide a statement on the title sheet of the plans that this project shall comply with the local amendments:

GENERAL INFORMATION

1. Show new EVCS installed are in compliance with Section ***11B-812***.
2. Alterations to existing EVCS shall comply with current access requirements. ***§11B-228.3***
3. Revise the plans and parking summary to provide a minimum of _____ van accessible, _____ standard accessible and _____ ambulatory EV spaces. ***Table 11B-228.3.2.1***
4. The required number and type of compliant EVCS spaces shall be based on the proposed total of both existing and new EV spaces. ***§11B-228.3.2.1***
5. Where EV spaces are provided in more than one parking facility on a site, the number and type of complying EV spaces shall be calculated and provided separately for each parking facility. ***§11B-228.3.2***
6. Fully dimension and detail all Drive-up EVCS to show compliance with the current access requirements. ***§11B-812 & 11B-812.6.4***
7. Provide sitework or topography plans with point elevations sufficient to show the proposed finished surface slopes and cross-slopes of all EV spaces, access aisles, and accessible routes. Access aisles shall be level with the EV space served, and slopes/cross-slopes shall not exceed 1:48. ***§11B-302***
8. Relocate the detectable warnings shown on the plans to be outside the minimum required area of all EV spaces and access aisles. ***§11B-302***
9. Provide building sections and dimension the actual vertical clearances along the full length of the vehicle spaces, access aisles and vehicular routes serving the EVCS. A minimum vertical clearance of 98 inches shall be maintained under all vertical obstructions, including cable management systems. ***§11B-812.4***

ACCESSIBLE ROUTES & ACCESS AISLES

10. Show locations of all EV spaces and accessible routes on the site plan. Compliant EV spaces shall be located on an accessible route to an accessible building entrance. ***§11B-206.4 & 11B-812.5***
11. Provide and clearly identify the accessible route on the plans connecting each EV space and the EV charger which serves the space***. §11B-402 & 11B-812.5.2***
12. Provide curbs, wheel stops, bollards, or other barriers to prevent encroachment of vehicle over the required clear width of accessible routes. ***§11B-812.5.3***
13. Relocate the EVCS accessible spaces and access aisles so that persons using them are not required to travel behind vehicles or parking spaces other than their own. ***§11B-812.5.3***
14. EVCS shall be designed so accessible routes are not obstructed by cables or other elements. ***§11B-812.5.5***
15. Fully dimension all EV spaces on the plans. The minimum dimensions shall be: ***§11B-812.6***
    a. 144 inches by 216 inches long for van accessible EV spaces;
    b. 108 inches by 216 inches long for standard accessible EV spaces;
    c. 120 inches by 216 inches long for ambulatory EV spaces; and,
    d. 204 inches by 240 inches long for drive-up EVCS spaces.
16. Dimension and provide access aisles adjacent to each accessible/ambulatory EV space, complying with the following: ***§11B-812.7***
    a. Minimum 60 inches wide;

Effective: 01/01/2022

b. Minimum length equal to the length of the vehicle spaces served; Shall not overlap the vehicular way; and Shall be located on the passenger side of van accessible EV spaces.

STRIPING & MARKINGS

17. Revise the striping plan and details to accurately dimension the accessible vehicle spaces and access aisles. The required dimensions shall be provided from the centerline of the markings. ***§11B-812.1***
18. Provide complete striping details and notes for the EV spaces and access aisles, to show compliance with the following: ***§11B-812.7***
    a) Access aisles shall be marked with painted borderlines around their perimeter;
    b) The area within the borderlines shall be marked with hatched lines a minimum of 36 inches on center;
    c) The color of the borderlines, hatched lines, and letters shall contrast with that of the surface of the access aisle;
    d) The color of all striping and markings shall **not** be the blue color used for identification of accessible parking spaces per ***11B-502.3.3***;
    e) The words "NO PARKING" shall be painted within each access aisle in letters a minimum of 12 inches in height and located to be visible from the adjacent vehicular way; and,
    f) The words "EV CHARGING ONLY" shall be painted at the lower end of each EV space in letters a minimum of 12 inches in height. The centerline of the text shall be 6 inches maximum from the centerline of the vehicle space and its lower corner at, or lower side aligned with, the end of the parking space. ***§11B-812.8.9***

SIGNAGE

19. Detail and provide identification signage as follows: ***§11B-812.8***
    a. Identification with an ISA (International Symbol of Accessibility) and signs identifying van accessible spaces are not required where a total of four or fewer EV spaces are provided;
    b. Five to twenty-five total EV spaces are provided:
        i. One van accessible EV space shall be identified by ISA signage;
        ii. Accessible signage is not required at the standard accessible EV spaces.
    c. Twenty-six or more EV spaces are provided:
    All required van accessible and standard accessible EV spaces shall be identified by ISA signage.
20. Identification signs shall be reflectorized with a minimum area of 70 square inches. ***§ 11B-812.8.6***
21. The identification sign shall be visible from the EV space it serves.
22. Signs identifying van accessible EV spaces shall contain the words "van accessible."
23. Identification signs shall be permanently posted either immediately adjacent to the vehicle space or within the projected vehicle space width at the front end of the vehicle space. ***§11B-812.8.7***
24. Mounting height of identification signs shall be
    a. 60 inches minimum above the finish floor/ground surface measured to the bottom of the sign; or,
    b. 80 inches minimum above the finish floor or ground surface measured to the bottom of the sign, when the sign projects over an access aisle or other circulation path.

EQUIPMENT

25. EV chargers shall be adjacent to, and within the projected width of the EV space being served. ***§11B-812.10.4***
26. Provide typical plan and elevation views of the EV chargers showing required clear ground space and all operable parts. ***§11B-305, 11B-308, 11B-309 & 11B-812.10***
27. Dimension the height above the clear ground space to all operable parts and controls. All operable parts and control shall be 15 to 48 inches above the clear ground space for both forward and side approaches. ***§11B-308***
28. Where point-of-sale (POS) devices are separate from the EV charger equipment, provide plan and elevation views for the POS in addition to the EV chargers, to show compliance with Section 11B-707.9***. §11B-812.10.3***

NOTES: This criteria is intended to be used as guide for the EVCS permitting process. Each project is unique and additional requirements may be required, If any items are missing, please revise plans to fall within the eligibility checklist. Otherwise, the permit application may go through additional plan review and approval process. Plan review commences the day after a complete submittal and payment of the plan check fees are received.

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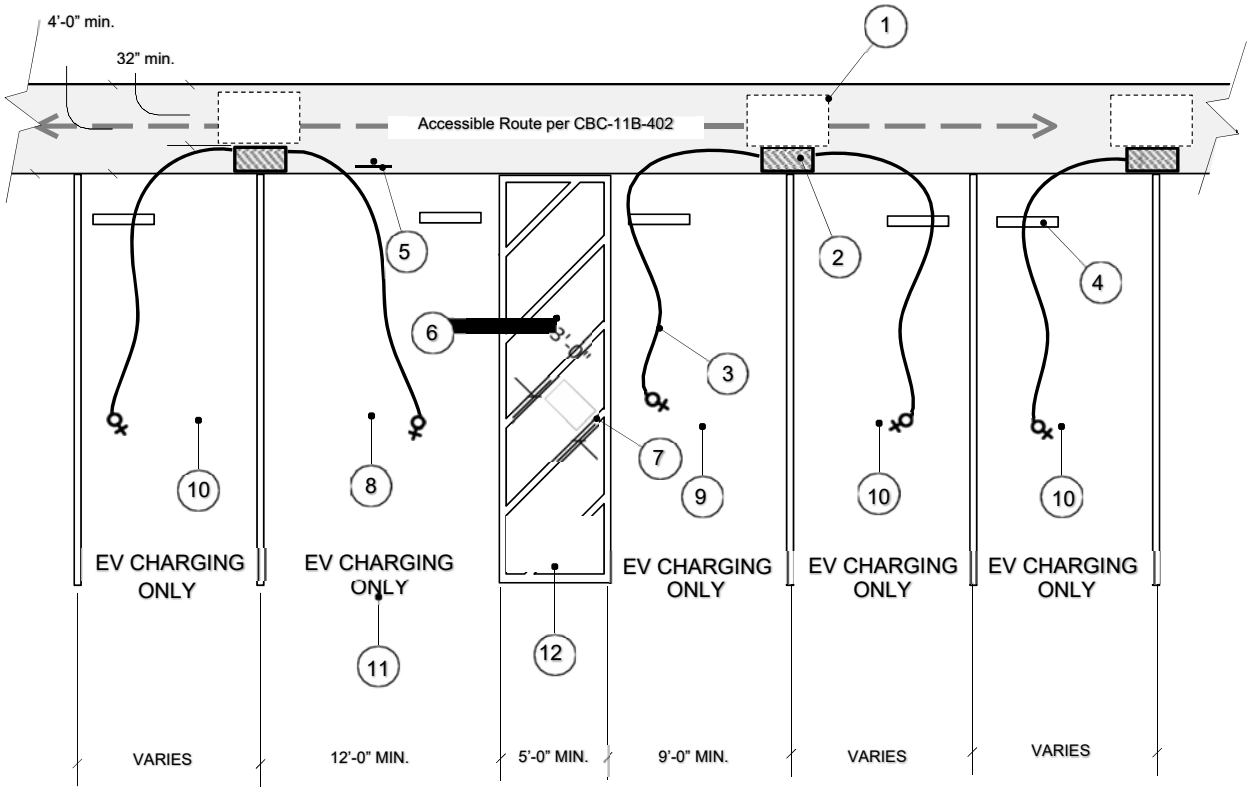

Typical Electric Vehicle Charging Station Configuration for Public Use

See 2019 CA Building Code Sections 11B-812 and 11B-228.3 for additional requirements

KEY LEGEND

1. 30" x 48" clear space for parallel approach (CBC 11B-302).
2. Electric Vehicle Charging Station (EVCS)(see CBC 11B-228.3 & 11B-812 for requirements).
3. Electric Vehicle Charging Station coupling (nozzle) and conductor.
4. Wheel stop.
5. 70 sq. in reflectorized International Symbol of Accessibility (ISA) sign required at van accessible charging station when 5 or more EVCS spaces are provided. "Van Accessible" sign shall also be provided. (see CBC 11B-812.8 for additional requirements)
6. 60" minimum width access aisle located on the passenger side of a van accessible space and at the same level as the adjacent vehicle space. (CBC 11B-812.7)
7. Contrasting border and 36" maximum on center diagonal hatched lines designating the access aisle. Access aisles borderlines and hatched lines for EVCS spaces shall not be blue. (CBC 11B-812.7.2)
8. Minimum 144" wide by 216" long van accessible lined EVCS space (ISA sign and "Van Accessible" sign required). (CBC 11B-812.6.1 and 11B-812.8)
9. Minimum 108" wide by 216" standard accessible lined EVCS space (ISA sign not required unless 26 or more EVCS are provided). (CBC 11B-812.6.2)
10. EVCS space not regulated by CBC 11B-812.
11. 12" high "EV CHARGING ONLY" surface marking at the end of each EVCS space. (CBC 11B-812.9)
12. 12" high "NO PARKING" surface marking within the access aisle. (CBC 11B-812.7.3)

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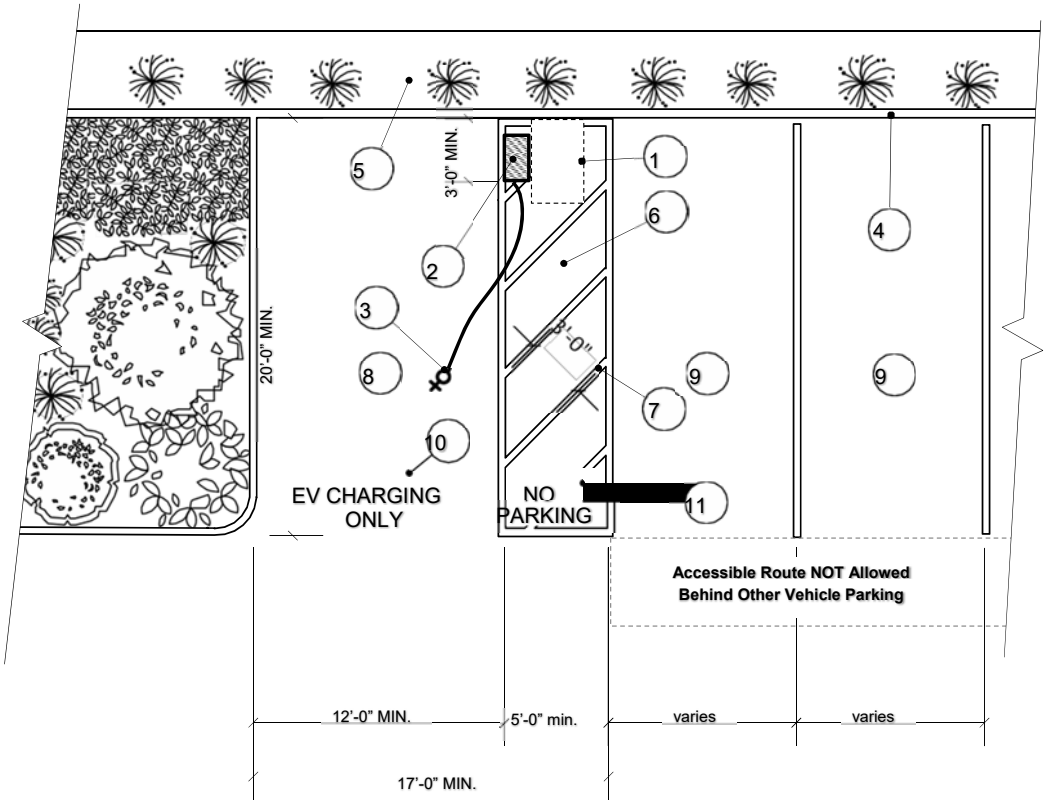

Typical Single Electric Vehicle Charging Station Configuration for Public Use

For an EXISTING Commercial Facility or Public Accommodation

See 2019 CA Building Code Sections 11B-812 and 11B-228.3 for additional requirements

KEY LEGEND

1. 30" x 48" clear space for parallel approach (CBC 11B-302).
2. Electric Vehicle Charging Station (EVCS)(see CBC 11B-228.3 & 11B-812 for requirements).
3. Electric Vehicle Charging Station coupling (nozzle) and conductor.
4. Wheel stop.
5. 70 sq. in reflectorized International Symbol of Accessibility (ISA) sign required at van accessible charging station when 5 or more EVCS spaces are provided. “Van Accessible” sign shall also be provided. (see CBC 11B-812.8 for additional requirements)
6. 60" minimum width access aisle located on the passenger side of a van accessible space and at the same level as the adjacent vehicle space. (CBC 11B-812.7)
7. Contrasting border and 36" maximum on center diagonal hatched lines designating the access aisle. Access aisles borderlines and hatched lines for EVCS spaces shall not be blue. (CBC 11B-812.7.2)
8. Minimum 144" wide by 216" long van accessible lined EVCS space (ISA sign and “Van Accessible” sign required). (CBC 11B-812.6.1 and 11B-812.8)
9. Minimum 108" wide by 216" standard accessible lined EVCS space (ISA sign not required unless 26 or more EVCS are provided). (CBC 11B-812.6.2)
10. EVCS space not regulated by CBC 11B-812.
11. 12" high “EV CHARGING ONLY” surface marking at the end of each EVCS space. (CBC 11B-812.9)
12. 12" high “NO PARKING” surface marking within the access aisle. (CBC 11B-812.7.3)

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11B-228.3.2.1 Public Use or Common Use EVCS

Where EVCS are provided for public use or common use, EVCS complying with Section 11B-812 shall be provided in accordance with Table 11B-228.3.2.1. Where new EVCS are installed in facilities with existing EVCS, the "Total Number of EVCS at a Facility" in Table 11B-228.3.2.1 shall include both existing and new EVCS.

Exception: All drive-up EVCS shall comply with Section 11B-812.

TABLE 11B-228.3.2.1
ELECTRIC VEHICLE CHARGING STATIONS FOR PUBLIC USE AND COMMON USE

TOTAL NUMBER OF EVCS AT A FACILITY[1]	MINIMUM NUMBER (by type) OF EVCS REQUIRED TO COMPLY WITH SECTION 11B-812[1]		
	Van Accessible	Standard Accessible	Ambulatory
1 to 4	1	0	0
5 to 25	1	1	0
26 to 50	1	1	1
51 to 75	1	2	2
76 to 100	1	3	3
101 and over	1, plus 1 for each 300, or fraction thereof, over 100	3, plus 1 for each 60, or fraction thereof, over 100	3, plus 1 for each 50, or fraction thereof, over 100

1. Where an EV charger can simultaneously charge more than one vehicle, the number of EVCS provided shall be considered equivalent to the number of electric vehicles that can be simultaneously charged.

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